

WHAT IS CLAIMED IS:

1. A transistor comprising:

a source electrode and a drain electrode arranged in mutually opposing relation;

a semiconductor film comprising at least one layer disposed between the source
5 electrode and the drain electrode;

a gate electrode disposed in adjacent relation to the semiconductor film; and

a gate insulating film disposed between the gate electrode and each of the source
electrode, the drain electrode, and the semiconductor film, wherein

a concentration of fluorine contained in the gate insulating film is 1×10^{20} atoms/cm³
10 or less.

2. The transistor of claim 1, wherein the concentration of the contained fluorine is 1×10^{19} atoms/cm³ or less.

3. The transistor of claim 1, which is of a field-effect type.

4. The transistor of claim 1, wherein the gate insulating film is an amorphous silicon
15 nitride film.

5. The transistor of claim 1, wherein the gate insulating film is deposited by a CVD
method.

6. A CVD apparatus used to deposit the gate insulating film in the transistor of claim
1, the CVD apparatus comprising:

20 an electrode having a plurality of gas supply holes and disposed in a reaction chamber,
wherein

a surface of the electrode is composed of a non-porous layer.

7. A transistor comprising the gate insulating film deposited by using the CVD

apparatus of claim 6.

8. A liquid crystal display device comprising the transistor of any one of claims 1, 2, 3, 4, 5, and 7 as a switching element for a pixel electrode portion.